1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

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Fig. 16. A man, in front of his hut. Choroti, Gran Chaco, Bolivia. Photo. E. v. R.

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1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

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Fig. 17. A man, with frontlet of birdskin. Choroti. Tatarenda camp. Gran Chaco. Bolivia. Photo. E. v. R.

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1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

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Fig. 30. Men and women. Back row (8 individuals): men and youths. Front row (4 individuals): women. Choroti. Gran Chaco. Bolivia. Photo. E. v. R.

CHAPTER II.

The Choroti (2). Dress and ornaments.

Men's dress. Garments of protection against arrows, fish-bites and thorny plants. Hair-dressing. Frontlets. Hair-nets. Head ornaments of feathers, etc. Ear-lobe discs. The ear-boring custom. Necklaces. Armlets. Anklets. Finger rings. Dress and ornaments of the women. Tattooing. Painting of the face. Cutting the hair short. Pulling out of hairs. Toilet articles and their receptacles. Lack of cleanliness. Phthiriophagy.

291 On account of the warm climate of the Chaco, the Choroti do not require much in the way of dress. The smaller children are always completely naked (fig. 23), and when the men are engaged in any harder kind of work, they then usually only wear a woollen apron, passed between the legs and fastened in front and behind to a string made of caraguatá fibre or wool, tied round the waist (figs. 16, 18 and 30). Occasionally they fasten pieces of cloth, of different sizes, round the waist without tucking them between the legs (fig. 30). I have also seen Choroti men wearing broad, fringed, leather belts (fig. 31), but these skirt-like garments seemed to be of rather rare

[p. 49]

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

as well as the Chaco tribes of the Guaikurú group, like the Choroti, wear these garments as war shirts.[1] In all the tribes just referred to (and the Ashluslay and Mataco as well), such shirts are worn exclusively by the men. The Caraguatá shirt here reproduced is knitted very tightly and closely (fig. 37), and, although its length is only 56 cm, exclusive of the shoulder straps, it weighs as much as 1.4 kg. The stripes that are worked in by way of ornamentation, have been formed by using string dyed black, and string dyed brown, alternately, in knitting. The parts that are between the stripes consist of undyed fibre. At the bottom edge of the shirt, small pieces of red and yellowish brown cloth have been tacked on; these originate from the whites.

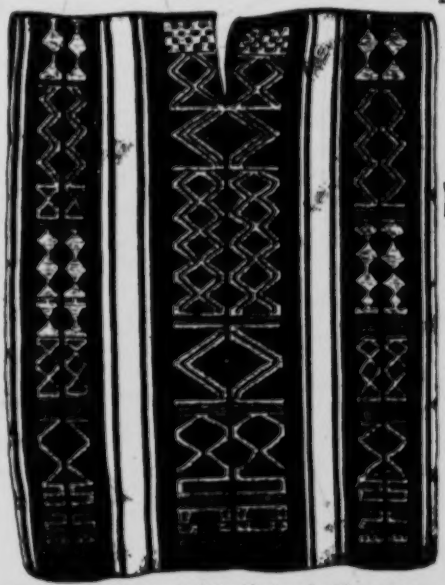


Fig. 35. Child's poncho (a boy's) of wool, with woven ornaments. Ground colour brownish-red; ornament yellowish-grey. Choroti (probably manufactured among some other tribe). Gran Chaco. Bolivia. 1/2. Riksm. 03. 3. 4.

These mail shirts of caraguatá-fibre string are exceedingly well manufactured, and undoubtedly form a good protection against the Chaco Indians' arrows, which are usually wooden-pointed. Arrows with rod-shaped, iron wire points, or with leaf-like, edged, iron heads, on the other hand, would probably pierce even the thickest and most closely knitted caraguatá shirt. The shoulder straps in these mail shirts are knitted considerably thinner and less closely than the rest of the shirt, and this is only natural, as the function of the straps is to suspend the shirt, and not to give protection against arrows. Besides, they could only be hit by arrows dipping at an angle from above.

[1] Krickeberg (1), p. 131.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

CHAPTER III.

The Choroti (3). Modes of subsistence.

Their various industries. Hunting. Bows. Arrows. Game-stalking. Game-driving. Decoying game by imitative calls. Tracking. Snares. War weapons. Clubs. Knuckle-dusters. Bone daggers. Knives made of cane. Mail shirts. Methods of warfare. Incendiary arrows. Ambuscades. Preparing for war. Scalping. Torture. Causes of war. Fishing. Nets. Driving fish. Blocking up fishing-water. Swimming and wading, in fishing. Fish fences. Pile-buildings used in fishing. Mesh-spacers. Fish-hooks and lines. Fish clubs. Transportation of fish. Dangers in fishing. Gathering of wild food plants. Implements used in gathering wild plants. Agriculture. Cultivated plants. Agricultural implements. Cattle-rearing. Domestic animals. Nomadic life. Trading.

The Choroti subsist on hunting, fishing, the gathering of wild, edible plants, and, to some small extent, also on a very primitive form of agriculture, and by trading with their neighbours.[1]

Hunting of game is mainly done with bows and arrows, and snares. The pellet-bow and the sling are met with among the Choroti, but are only used as toys.[2]

The collection of Choroti objects that I presented to the Riksmuseum included 14 bows, only 11 of which are now to be found. They form the material upon which the following description of Choroti bows is founded.

The bow staves consist of some kind of wood which is hard, resilient and usually free from knots. Probably quebracho (Schinopsis lorenzii) and palo mataco (Achatocarpus praecox) are the woods most frequently used as bow stave material. The bows of the Choroti (figs. 90 and 91) are better made than those of the Chiriguano, but are not of such good workmanship as the bows that I have seen among the Toba on the upper Pilcomayo.

[1] The description I am here giving of the Choroti refers, unless otherwise stated, to this tribe's mode of living at the time my observations were made (1901). Since then, many changes have come into the Chaco Indians' mode of living.

[2] Nordenskiöld (12), p. 48.

[p. 85]

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

Fig. 90. Riksm. 03. 3. 245.

Fig. 91. Riksm. 03. 3. 250.

Bows. Choroti, Gran Chaco, Bolivia. 1/8. In shooting, the bows are held in the position shown in the figures, i. e., with the part of the stave downwards, on which the string is wound.

Among the Choroti, as among their neighbouring tribes with the exception of the Chiriguano, the bow staves are sometimes made with a bend at the ends towards the string, these bends having been produced *before* the stringing of the bow (see fig. 91). How the bends are effected among the Choroti I cannot say, but it is probable that they, like the Lengua, for this purpose use fire.[1] According to Grubb, the Lengua shape the staves also with axe or knife so the stave ends assume the bent shape required. This can, of course, only be done by making the ends strongly tapering, as then they are more easily bent. The direct carving or cutting out of a bow stave with bent ends from a piece of woods is certainly possible, but to my thinking the stave would break at the very first attempt at stringing the bow, because in such a case the grain of the wood would not be following the bend of the stave.

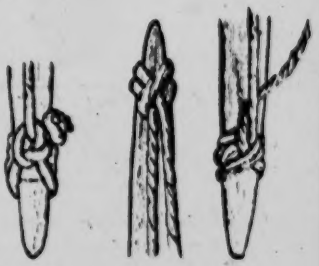
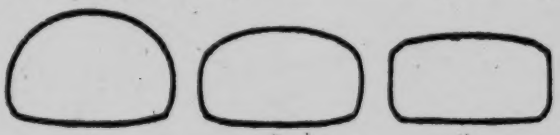


Fig. 93. Lower string holds and string noose, of the bow, fig. 90.

a. b.

Fig. 94. Upper and lower string holds and string nooses of the bow, fig. 91.

By giving the ends of a bow stave an inward bend in the way done in certain Chaco bows, the greater part of the stave — even when stringed — is free from any strain, except when the string is being



A B. C.

03. 3. 250. 03. 3. 256. 03. 3. 257.

Fig. 94. Tranverse sections at middle of the Choroti bow staves. Gran Chaco, Bolivia. 1/1. Riksm.

[1] Grubb (1), pp. 76 and 77.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

drawn back for giving speed to the arrow. Of the circumstances which require a bow-stave construction of this kind, I have given a full account in my description of the bows of the Bangweolo swamp dwellers,[1] so that here I will only mention that such a construction is the right one only for bows that are never altogether unstrung.

Among the Choroti, as among the Mataco,[2] the curved end type of bow is considerably more rare, and less developed, than among the Toba, which latter tribe, according to my opinion, has preserved the Chaco bow in its purest and most highly developed type (see figs. 272–274). Probably the Choroti formerly had bows of the same type as the Toba, but in later times the bow type of the first mentioned tribe is likely to have been influenced by intercourse with the Chiriguano.

Chaco bows have not, *as a rule*, ends that have been pared down for giving a hold to the string (Cfr. figs. 92 and 93 with fig. 205); some Choroti bows, however, have been given this kind of string hold, as may be seen from the table below. These pared down bow ends are undoubtedly an imitation of the Chiriguano stringhold. On the bow stave, immediately inside the loop of the string, the Choroti occasionally lay on a winding of caraguatá or woollen yarn, 0.5 to 1 cm wide (fig. 93), which prevents the string loops from slipping down along the bow stave when the strain is very hard. In a properly made bow, no such windings are necessary, and were certainly not used in the old days, otherwise than exceptionally. Nowadays these windings are often seen: of the eleven Choroti bows studied by me, no less than four are wound inside the string holds.

As a rule, the bow staves have been polished very smooth. Their transverse sections at the middle are shaped as seen in fig. 94. Between the section types A, B and C, there are intermediate forms, which, in my table of Choroti bows, I have named AB and BC.[3] Such transverse sections as are found in the bows of the Choroti are also met with in bows found in the Andean mountain regions, and in the report I have published of my archæological researches in Quebrada del Toro and on the Puna de Jujuy, I have embodied a description of some bows and bow fragments, found in ancient graves, which have the same kind of section and string hold as the typical Chaco bows. Several of the Andean bows are, however,

[1] von Rosen (4), pp. 176–184.
[2] Cf. Krickeberg (1), fig. 33 a.
[3] For transverse sections of other Chaco peoples' bows, see Schmidt (1), p. 1037 et seq.

Choroti bows.

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Catalogue Nr., Riksm. coll. 03. 3.	Bow-stave material	Length of bow stave, cm	Transverse section at middle of bow stave	Upper string-hold	Lower string-hold	String-material	Remarks
245	Hard, resilient, free from knots	159	Type A	Not pared down	Not pared down	Twisted rawhide	String hold barely noticeably pared down
247	Hard, resilient; less free from knots	150	» »	Not pared down	Not pared down	»	
250	Hard, resilient, free from knots	146	» »	Pared to a neck	Pared to a neck	»	Bow stave near point of upper end sheathed in a rawhide covering, slipped on, about 4.5 cm long
254	Hard, resilient, free from knots	132	» AB	Not pared down	Not pared down	»	Winding for fixing string loop
256	Hard, resilient, free from knots	146	» B	Not pared down	Not pared down	»	Winding for fixing string loop
255	Hard, resilient; less free from knots	146	» »	Not pared down	Not pared down	»	Unusually sharp pointed end
251	Hard, resilient, free from knots	144	» »	Not pared down	Not pared down	»	
252	Hard, resilient, free from knots	136	» »	Not pared down	Not pared down	»	Bow stave near its middle provided with a rawhide sheath, about 8 cm long
253	Hard, resilient, free from knots	133	» »	Not pared down	Pared to a neck	»	Winding, to prevent slipping of string loop. A 5.5 cm long sheath of rawhide fitted on, near lower end of stave
258	Hard, resilient, free from knots	142	» BC	Not pared down	Not pared down	»	
277	Hard, resilient, free from knots	147	» C	Not pared down	Not pared down	»	Winding for fixing string loop.

of convex type — i. e., the staves have a convex string side, and a plane, or slightly concave, back — but I have not seen any Choroti bows with that kind of stave, which does not exclude the possibility of their occurring by way of exceptions. The convex bow is, however, better than the concave kind, and all technically perfected European target bows have their staves convex.[1] The fact of the concave bow being common among a people as low-cultured as the Choroti strikes one as something less to be wondered at than that this type of bow also was in use (together with the concave type) among the comparatively highly cultured Andean tribes.[2]

411 825 In some of the Choroti bows, a sleeve-like covering of rawhide has been fitted on to the stave (see Table »Choroti bows», under »Remarks»).

[1] Walrond (1), p. 286 et seq.

[2] I have previously published an attempt at explaining how the concave type came into being. See von Rosen (10), pp. 34, 35 and 78, 83.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

These casings are not sewn together, but consist of the seamless skin of the tail or leg of some animal. At first I took it as a matter of course that these casings had been put on solely for the purpose of strengthening the bow at some point where it looked like breaking. In order to make certain, I cut loose a casing of this kind, which was on the bow numbered 03. 3. 253, but I could not discover the least crack, knot, or other defect pointing to any necessity for reinforcing the bow at that point. But, between the casing and the stave, I did find some flattened cakes of excrement from some herbivorous animal. Whether these excrements had *purposely* been placed inside the casing, is of course impossible to say, but if they were put there on purpose, then they undoubtedly possessed some magical significance. In such case the idea must have been that they would bring good luck in the hunting of the species of game whose excrement had been placed inside the casing (see p. 181). As among the Indians there is a very wide-spread notion that whoever possesses the skin of some animal also possesses a certain mastery over the spirit of that animal,[1] it is not impossible that the skin casing itself is of a magic character. Professor Emil Holmgren, who, at my request, kindly carried out a microscopical examination of the excrement flakes as well as of the piece of skin, considers that the character of the latter points to its having been a part of the tail of an animal of the goat, sheep, or *cat* tribe, and that the colour and grouping of the hairs are indicative of the *last-mentioned* category.[2] That parts of animals' bodies are used by the Chaco Indians as hunting amulets, is, among other things, evident from a statement by Nordenskiöld upon the subject of hunting among the Ashluslay, who are neighbours of the Choroti: »In hunting, the Ashluslay make use of various amulets. If, in the always indispensable caraguatá bag, one carries the head of a tortoise, then one is able to stalk close up to the deer, without putting them to flight. When hunting ostriches, it is a good thing to bring along pieces of skin taken from the breast of ostriches which one has killed.«[3] As to the other two bows, I have refrained from cutting off the skin casings, and therefore cannot say whether the latter conceal any cracks or not. On the staves of the bows Nos. 03. 3. 252 there are, however, to be seen, close to the casing, several deep scorings, running

[1] Karsten (4), p. 90.
[2] Opinion dated August 24th, 1921. Rockefeller collection of Manuscripts, Volume 1921, »H».
[3] Nordenskiöld (13), p. 49.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

411 with the grain of the wood, and these point to the possibility that the casing may be concealing some defect in the stave. There is, however, nothing which prevents the casing on this bow from being, at the same time, an instrument of magic and a practical means of reinforcement.

411 284 [283] The bow string, which consists of two, three, or more strips of skin (usually deerskin),[1] is often twice the length of the bow (see figs. 90, 95 and 96). One end of the string is fixed with a hard knot to one of the bow ends fig. 93 a). This end of the bow is pressed on the ground, and then the stave is given a slight bend — with the help of the knee — and the string is wound on to the upper bow end, in the way seen in figs. 92 and 93 b. The spare end of the string is then tied along the outer side of the bow, as seen in fig. 90. This figure shows a comparatively well-made Choroti bow, without pared-down string-holds, or windings for holding the string in position, and with the string put on in the proper way. On the other hand, fig. 91 shows a bow with string-hold windings and a string badly put on. In shooting, the Choroti generally hold the bow so that the end wound with the loose end of the string points downwards (figs. 90, 91 and 96).

411 Even when the bow is »at rest» (that is to say, when the string is not much tightened), the middle part of the string, owing to the said curving of the stave ends, will be at a certain distance from the stave, which makes it possible to use the bow without first tightening the string. But if there is time for shortening the string, this is almost always done. The Choroti shorten and lengthen the bow string, in the same way as is done by the Chiriguano on their bows (see p. 208).

For the protection of the wrist from the blow of the string, the Choroti sometimes use broad wrist guards of leather.[2]

[177] The arrows used by the Choroti are, as a rule, tipped with some hard, heavy wood (figs. 97—103), but iron arrow-heads (figs. 104—106) are more and more coming into use. Occasionally, the fore end of a wooden arrow-head may be fixed into the marrow cavity of a sharpened piece of bone. Such bone-tipped arrows are, however, very rarely met with among the Choroti; for my own part, I failed to acquire more than a single

[1] The Choroti also use bow strings made of caraguatá fibre; Nordenskiöld (11), p. 36. I never myself, however, saw any bow strings of that kind.

[2] Nordenskiöld (11), p. 43.

[text continues on p. 94]

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

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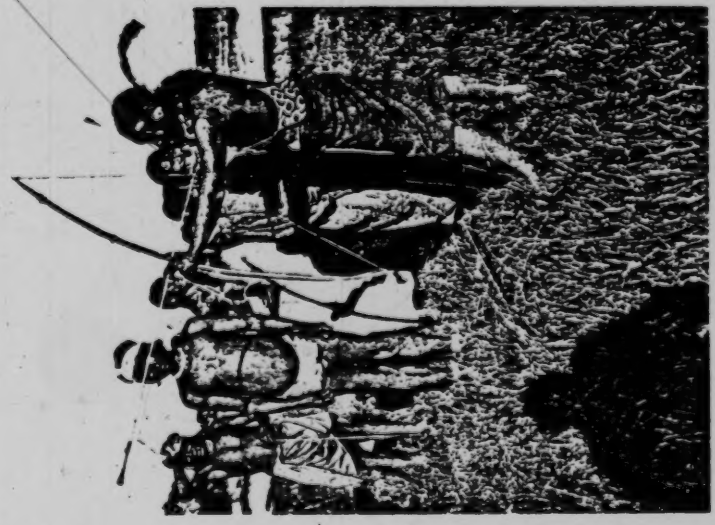

Fig. 96. A man aiming with a bird arrow. Choroti, Gran Chaco, Bolivia.
Photo. E. v. R.

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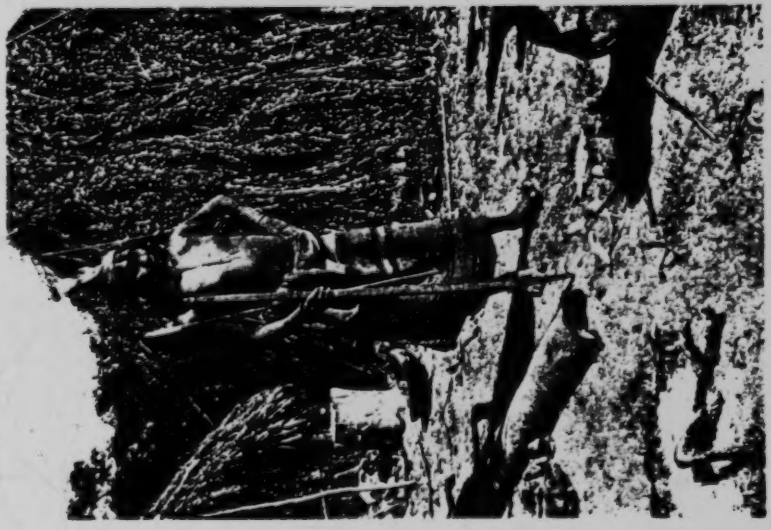

Fig. 95. A man with bow and arrow. Choroti, Gran Chaco, Bolivia.
Photo. E. v. R.

(92)

[p. 92 is blank]

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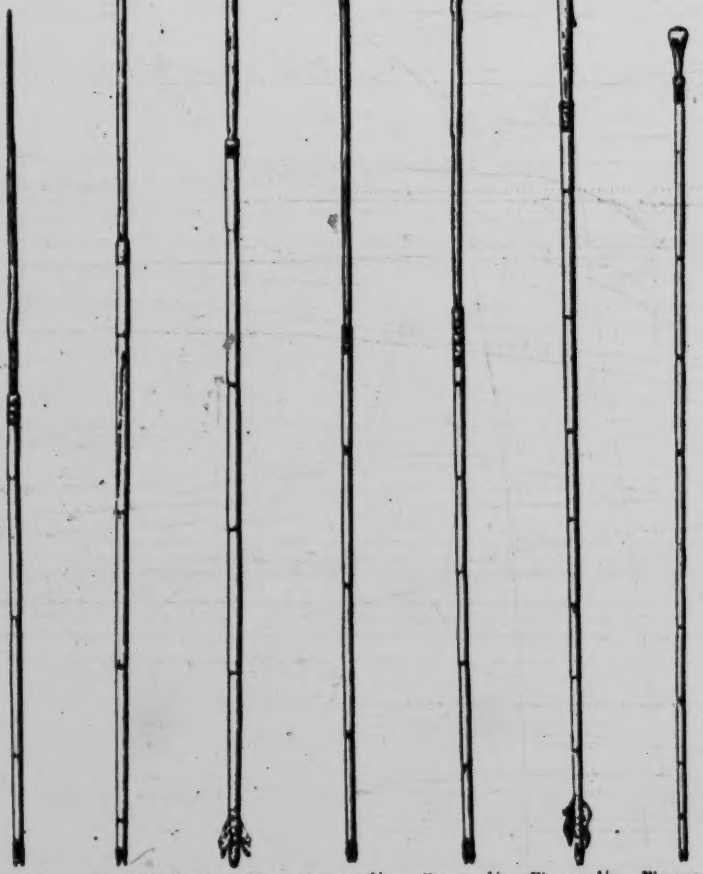

Fig. 97. 1/a. 10. 3. 127. | Fig. 98. 1/a. 10. 3. 126. | Fig. 99. 1/a. 03. 3. 332. | Fig. 100. 1/a. 03. 3. 314. | Fig. 101. 1/a. 03. 3. 317. | Fig. 102. 1/a. 10. 3. 98. | Fig. 103. 1/a. 03. 3. 342.

Arrows tipped with hard, heavy wood, and with shafts of reed. Choroti. Gran Chaco. Bolivia. Riksm.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

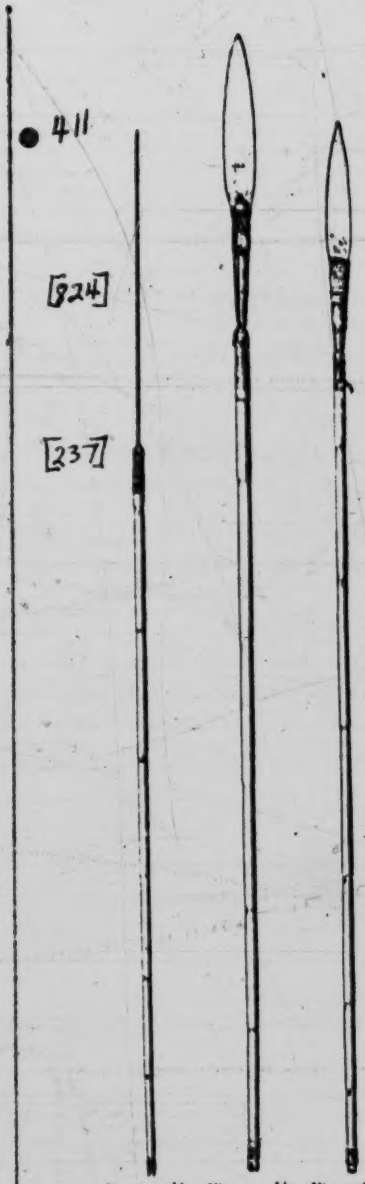

Fig. 104. 1/5 03. 3. 355. Fig. 105. 1/5. 03. 3. 360. Fig. 106. 1/5. 03. 3. 375. Arrows tipped with iron, and with reed shafts. Choroti. Grant Isaco, Bolivia. Riksm.

specimen, which ought to be in the Riks museum collection (numbered 03. 3. 259).[1]

The arrow-shafts consist of a reed, and are generally without feathers. When they do occur, they are fastened on in the way fig. 107 shows.

The wooden arrow-heads, which are usually of quebracho (Schinopsis lorenzii), palo mataco (Achatocarpus praecox), or palo santo (Bulnesia sarmienti), are fitted into the reed shaft, the front end of which is wound with caraguatá fibre in order to prevent its being split open by the arrow-head. This winding is coated with bee's-wax. The rear end of the reed has a notch for the bow string (see fig. 107). The length of the reed is adjusted in such a way that the notch in the butt end can be made immediately behind a joint, which naturally increases the strength of the shaft butt. The rear end of the shaft too is provided with a heavily waxed winding of caraguatá fibre. The thicker end of the reed (the lower end of the growing reed) is always used for fixing the arrow-head, as then the joints slip more easily over the bow-stave than if the head were inserted in the thinner end of the reed.

Such arrows as are pointed with thick iron wire (fig. 104), have the rear end of the point wound with well waxed fibre. The fibre-wound part of the arrow-head is pushed so far into the shaft as to make the front edge of the winding come flush with the mouth of the reed shaft. Lanceolate iron heads (figs. 105 and 106) are fitted into a cleft wooden socket, in the manner I have described from the Chiriguano (see p. 208).[a] Over the winding, which

[1] Cf. Nordenskiöld (11), fig. 5 b.

[a] [Not processed. – Analyst]

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

is applied about the socket, there is sometimes, covering it wholly or in part, a casing of snake or lizard skin (fig. 106). In order that the heavy arrow-head (together with its socket) may not happen to slip out of the shaft when the arrow is being carried in the belt, the foremost end of the string used in winding on the socket is often passed back along the socket ((in the way shown in fig. 105)) and tied on to the winding on the fore end of the shaft.

Poison is never put on the arrow-heads, but these are often provided with barbs (figs. 99—102). For bird-shooting the Choroti use arrows with a club-shaped head (fig. 103), in appearance similar to those I have described from the Chiriguano. Among the Choroti, however, there are seldom seen club-like arrow-heads that have, in the centre of their striking face, a projection such as the Chiriguano arrows have (see fig. 212 and p. 209). As regards the Choroti arrows I have here reproduced, their lengths, and other particulars about them, will be seen from the appended table.

Fig. 107. Feathering of the arrow, fig. 99. 1/1.

I think I ought to mention that in ancient Indian graves in the mountain region there have been found arrows of exactly the same types as those nowadays used by the Choroti and other peoples of the Chaco.[1] These types are, however, not those that are characteristic of the mountain region, the arrows of the mountain tribes now inhabiting the area of the ancient Peruvian realm having quite a different appearance.[2]

As regards arrow-heads, I wish to point out that even the most singular forms may be common to peoples that are each others' antipodes. In cases where human beings have reached much the same stage of cultural development, when they have similar needs, and access to the same sort of materials for weapons and other implements, then similar forms of implements are apt to be produced, independent of time and locality. As an example of this I may adduce that among the Esquimaux of western Greenland are to be found arrows with bone heads of exactly the same

[1] See for example Boman (4), pp. 729—730; Joyce (1), plate XXVI, fig. 4; Lehmann-Nitsche (4), p. 37.
[2] See for example von Rosen (10), pp. 140—143.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

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The Choroti arrows in figs. 97—106. Synoptic table.

Fig.	Head					Socket		Shafting	Shaft			Length of arrow, cm	Mode of using
	Material	Shape	Length beyond socket, cm	Length beyond shaft, cm	Arrow poison	Material	Length beyond shaft, cm		Material	Length, cm	Feathers		
97	Hard, heavy wood	Needle-like, with irregular transverse section; no barbs	—	40.1	None	—	—	Arrow-head stuck into a hole in the shaft	Reed	45.8	None	88.9	Hunting of various middle-sized game; also a war weapon
98	»	»	—	35.7	»	—	—	»	»	65	»	100.7	»
99	»	Needle-like. Section of rear portion irregular; of front portion triangular. Barbed along all three edges	—	35.9	»	—	—	»	»	75	Two, opposite each other, see fig. 107	110.9	»
100	»	Needle-like. Section of rear portion irregular; of front portion square. Barbs along two opposite edges	—	58.1	»	—	—	»	»	72.4	None	130.5	»
101	»	»	—	63.1	»	—	—	»	»	75.8	»	138.9	»
102	»	Lanceolate, two-edged. Barbs along one edge. Rear portion of irregular section	—	31.6	»	—	—	»	»	80.1	Two, opposite each other, as in fig. 107	111.7	Hunting of bigger game, such as jaguar and ostrich. War weapon for short ranges
103	»	Club-like	—	8.4	»	—	—	»	»	125.5	None	133.9	Bird-shooting
104	Thick iron wire	No barbs	—	48.1	»	—	—	Rear end of arrow-head wound to a length of 9.3 cm with waxed fibre. The wound part of the arrow-head fitted into a hole in the shaft	»	101.7	»	149.8	Hunting of various middle-sized game. War weapon
105	Iron	Lanceolate, with tang. No barbs	17.7	—	»	Hard, heavy wood	13.4	Tang fitted into a cleft in the socket. Socket fitted into a hole in the shaft	»	87.9	»	119	Hunting of larger game, such as jaguar and ostrich. A war weapon for short range
106	»		14.7	—	»	»	9.5	»	»	85.8	»	110	»

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

shape as the strange-looking Choroti arrow, which is seen in fig. 102.[1] The Esquimaux, like the Choroti, live in a bone-and-wood age, although the latter people to a large extent use the bone-hard wood of several species of Chaco trees in the place of bone. In both cases the arrows are intended for hunting big game. It is a strange thing, however, that the arrows just referred to, from Greenland and from the Chaco, are so much alike in shape that one might point to a reproduction of the Esquimaux arrow in question as being the type of a lanceolate, barbed, Choroti arrow. As to the ancient Indian arrows of Chaco type found within the Andean region, previously referred to, it is, however, not only their form that is identical with the Chaco arrows, but also the material (reed, and species of wood that do not grow in the mountain region) is typical of the Chaco. This being so, it may with great certainty be established that the ancient Indian arrows in question really originate from the Chaco, and that we here have one of the many indications that point to old-time communication between the mountain region and the plains to the east of it.

The Choroti hunt all sorts of game, from jaguars, pumas and ostriches, to lizards and rats. Among edible game are counted, among others, also birds of prey (even vultures), foxes, armadillos, rats, lizards and snakes. On the other hand, some Choroti, at least, will not touch deer's flesh, as they believe these animals to be possessed by evil spirits.[2] Some of the species of animals just enumerated, too, are by certain individual Choroti considered dangerous to eat (see p. 114).

When the Choroti are out hunting with bow and arrow, they naturally endeavour to stalk as closely as possible up to the game, and then occasionally employ a stratagem common to many tribes who live by the chase, namely that of tying tall leafy bunches about waist and shoulders, so as to give the hunter the appearance of a bush. This stalking trick is also known to the Lengua. On this point, Grubb writes to the following effect: »The ostrich is a very wild, though stupid bird, and the hunting methods of the Lengua are based on this fact. When hunting in a palm forest, the hunter ties a few palm leaves together and fastens them to his head and shoulders, so as to resemble a small palm. By means of this disguise he has no difficulty in getting within easy range of

[1] Solberg (1), p. 73, fig. 54, bottom row of arrows, the second specimen from the left.
[2] Karsten (2), p. 33.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

Fig. 110. War club, of hard, heavy wood (palo mataco). Choroti. Gran Chaco, Bolivia. 1/4 Riksm. 10. 3. 92.

As war weapons the Choroti use, beside bows and arrows, short, round-handled clubs of some very hard and heavy wood, usually palo mataco. The head and handle of the clubs is always carved in one piece (fig. 110). With these seemingly not very formidable weapons, the Indians are able — on account of the great hardness, heaviness and strength of the club material — to deal terrible blows, and they know how to use them with great skill.

In fighting their rivals, the Choroti women sometimes use knuckle-dusters of tapir-hide or wood,[1] the latter being of a type identical with specimens found in ancient Indian graves in the mountain region to the west.[2] The Choroti use also bone awls as daggers. A bone awl especially suitable for a weapon is reproduced in fig. 111. It consists of the lower part of the leg-bone of a small deer; the foot serves for a handle, and the hoofs forms an excellent pommel. The weapon fits the hand very well when the thumb rests against the sole of the hoof.

For cutting up game, the Choroti use knives made of sharp-edged cane splinters. Knives and poniards, of cane, have been very extensively used in South America. Even among tribes possessing knives of stone or metal, to this day knives of cane are being used in certain ritual ceremonies. Thus Bolinder, for example, mentions that among the Ijca Indians of Northern Columbia, in childbirth the navel is cut with a cane splinter.[3]

Fig. 111. Awl, made out of a shank bone of a small deer. Bone awls are sometimes used as poniards. Choroti, Gran Chaco. Bolivia. 2/3. Riksm. 03. 3. 181.

The Choroti do not, however, possess only weapons of offence, but also weapons of defence. When on the subject on dress, I have described the mail shirts, made of closely woven, thick

[1] Nordenskiöld (11), p. 55 and 56; also (13), p. 81.
[2] von Rosen (1), pp. 203 and 204.
[3] Bolinder (1), pp. 240 and 243.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

714 caraguatá string, that are used by the Choroti as a protection against arrows (fig. 36), and have mentioned the protective abdominal rawhide belts that they put to the same use.

To many it may sound strange that mail shirts made only from vegetable fibre actually should be able to afford effective protection against arrows and other sharp-pointed, or edged, weapons. Body armour of this kind has, however, been used by many different peoples, and even as early a writer as Homer makes mention of »linen cuirasses».[1] When Herodotus makes a list of the weapons of offence and defence carried by King Xerxes' Assyrian auxiliaries, this list also includes »cuirasses made of linen».[2] Textile armour is, besides, also referred to by several ancient Greek and Roman authors. In the tales of the early history of Rome, we can read of Aulus Cornelius, a leader of Roman horse, how in battle he stripped Lars Tolumnius, the king of Vejentes, of a »linen cuirass» and solemnly dedicated it, among »spolia opima», to Jupiter Feretrius, at his temple on the Capitolium.[3] This, it must be admitted, undoubtedly points to the great esteem in which these defensive weapons must have been held. That the fibre mail shirts of the Choroti form a rather safe protection against the wood-tipped arrows that are generally used on the Chaco, is a circumstance I have already set forth.

726 411 Occasionally the Choroti make use of incendiary arrows for the purpose of setting fire to the villages of their enemies. On our way home from the Pilcomayo, in Argentine territory we passed a sugar plantation, to which Indians from different parts of the Chaco had come for work. Two tribes, between whom old enmity existed, had erected temporary villages for themselves near the plantation, and, for some reason or other, the old hostility was kindled into flame, so that it came to open fighting. The owner of the plantation told us that, on the night before our arrival, the Indians had shot incendiary arrows at each other's villages, and that by this means they had managed to set several huts on fire. We could quite believe that the scene then enacted was both terrifying and grand, with the fire-carrying arrows flying about like rockets in the night, whilst the war cries of the Indians made accompaniment to the battle.

[1] Homer (1), epos 2, verse 830.
[2] Herodotus (1), p. 38–44, p. 471, Lindskog's translation.
[3] Neumann (1), p. 385.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

way, *and by renewed research among the Indians*, that we shall be enabled to obtain a thorough knowledge of their conception of magic blood-letting by means of awls.

In the foregoing I have mentioned that Choroti bow-staves are sometimes provided with a small skin casing, slipped on, and that on opening one of these casings I found that it contained excrements from some herbivorous animal. It is of course impossible to tell with certainty what the motive was for putting on this skin casing (see pp. 88 and 89), but I think it probable that it was put on the bow for some magic reason. It is noteworthy that it contained excrement. The fact of this being so is a circumstance that, in my opinion, especially points to the casing being of a magical character, for, according to the Chaco Indians' way of thinking, certain excrements possess magic properties and are often made use of in casting spells.[1]

All kinds of illnesses are by the Choroti considered to be caused by evil spirits. As yet, however, we know but little of these Indians' conception of the character and curing of different illnesses. Once Nordenskiöld called in medical aid from a medicine man among the Choroti, and this is how he describes the way in which the medicine man set about it:

»On many occasions, in the villages, I have seen the medicine men practising their profession. One day, among the Choroti, when I was feeling a bit seedy, I called one of those gentry to my camp. Giving out that I had a severe pain in the lower part of my chest, I asked him if he cared to cure me. He promised to come to me in the evening. At nightfall he arrived, accompanied by a colleague. They insisted on being left alone with me. Moberg and Andersson were consequently turned out, and sentries were posted so as to prevent anyone unauthorized gaining access to the hut. For a start, they made me strip to the skin, and then lie down. They stroked me with their hands over the chest, the sides of my body and the stomach, and then they spat on me. After that, they set to blowing on me, and then they laid themselves down and sucked hard at my chest, in particular at the spot where I had complained of the pain. After having sucked for a while, they turned away and pretended to vomit. Whatever they vomited up in this way, they did not show me, but, as they squeezed it between their fingers, it looked as if they had been squeezing worms. This performance lasted, I think, the

[1] See, for example, Nordenskiöld (13), pp. 93 and 98.

2: Nordenskiöld E-5 (1908-1909)1919
SK6 Choroti SK6
Ashluslay SK5

VII.

Hunting Weapons and Equipment.

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The Choroti are not eager huntsmen. The Ashluslay propably hunt more. Their only real hunting weapon is the bow and arrow. They also have snares of various sorts, though I do not know if they use them much. The sling and the bolas also occur among these Indians, but only as boys' weapons.

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The *bow and arrow* are certainly very old cultural elements throughout S. America. We find them almost all over the continent and among all the really primitive peoples. As far as I know, this weapon is only wanting on the Upper Amazon, or at least was rare there, for in the oldest books of travels[1]) from these parts we are told that on the upper part of this river the Indians fought with spears which they flung with the throwing stick, whereas lower down the river they used the bow and arrow. In the mountainous regions and on the Peruvian coast, i. e. in the greater part of the cultural zone in the West, the bow and arrow was also a rare weapon[2]). One may really ask why the Indians there preferred to use the throwing stick rather than the bow, which latter was nowhere unknown to them. Vergl. gives us a good explanation[3]): «The throwing stick carries as far as a bow, and is much more convenient for them, as they can

[1]) See Gaspar de Carvajal and Acuña.
[2]) But was not unknown there.
[3]) P. 256.

2: Nordenskiöld E-5 (1908-1909)1919
SK6 Choroti SK6
Ashluslay SK5

make the throw with the right hand alone, leaving the left free to steer or direct the boat.»

In the mountainous districts and on the Peruvian coast it was in part no doubt the lack of wood suitable for making bows that made this a rare weapon, but also in part the advantage of having the left hand free while using the throwing stick.

The bow (Fig. 4) that is used by the Indians dealt with here, is very poor in comparison with the bows used by most of the Indians inhabiting N.E. Bolivia. The transverse section shows a very varying form. The two ends of the bow are sharpened to a point, and are not provided with notches to hold the string. Bows of this sort, without notches, seem to belong to a very old cultural phase in S. America, for we only find them in the extreme south, and among a small number of very primitive peoples in Bolivia and Brazil.

PATER SCHMIDT mentions the following tribes that have bows ending in a simple point without notches for the string: Botokudo, Bugre, Chamacoco, Sapuki, Mataco, Toba, Angaité, Payaguá, Mbayá (Kadiuéo), Siriono, Pampas Indians, Mirana, Yanaperi and Vašmiri[1])

A few tribes have very indistinct notches at the end of the bow.

To the tribes enumerated by PATER SCHMIDT I can add, on the basis of archaeological material, the Indians in the Puna de Jujuy in Argentina[2]).

The bow-strings of the Choroti and Ashluslay Indians are made partly out of caraguatá fibres, partly out of strips of skin. Bowstrings of animal material are only found among the Indians in southern S. America as far north as the Chaco. (Map 2). In tropical S. America such bow-strings are unpractical and rare. Bow-strings of tendons or strips of skin

[1]) PATER SCHMIDT, p. 1033.

[2]) LEHMANN-NITSCHE (1) Pl. 2, fig. 3; pl. 3, fig. 16.

2: Nordenskiöld E-5 (1908-1909)1919
SK6 Choroti SK6
Ashluslay SK5

are, or were, used by the (27) Ona [1]), (5), Chané[7]) (2) Ashluslay[7]), (1) Choroti[7]), (6) Mataco[7]), (7) Toba[7]), (3) Tapiete, (10) Araucanians[2]), (26) Patagonians[3]), (17) Abipone[4]), (16) Guató[5], [8]) and (8) Lengua [9]).

WHIFFEN mentions bow-strings of strips of skin from (61) tribes on the north bank of the Rio Yapurá[6]). MEYER assumes that a bow with tendon string, which has been preserved since the 17th century in Copenhagen, comes from (56) Mundrucú. I consider it probable that the string which is now on the bow did not originally belong to it[10]).

For the rest, bow-strings of vegetable material are found throughout S. America.

In fig. 5 a, b, c, and d are reproduced the most important of the types of arrow heads to be found among the Choroti and Ashluslay. Of these I have attempted to study the distribution of the arrows with thickened heads (the bird arrow) (fig. 5 d) and would refer to Map. 3 and the subjoined list of references concerning the distribution of these arrow-points. The map pays no regard to the shape of the points among the different tribes.

The Geographical Distribution of the Bird Arrows in S. America (Map. 3)

No. on the map.

45 Botocudo, WIED, Vol. 2, p. 25; v. IHERING (2), Pl. 2, fig. 5; THERESE VON BAYERN (1), Pl. 4, fig. 8.

14 Bororó, STEINEN (3), p. 485.

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1) GALLARDO, and others.
2) MEDINA, p. 134.
3) PIGAFETTA p. 12.
4) DOBRIZHOFFER, Vol. 2, p. 354; »of the entrails of foxes».
5) MAX SCHMIDT (3), p. 180.
6) p. 95.
7) Also of Caraguatá fibre.
8) Also of palm fibre.
9) GRUBB, p. 77.
10) Is it not possible that some little princes played with the bow, and having lost the original string had a new one fitted to it?

2: Nordenskiöld E-5 (1908-1909) 1919
SK6 Choroti SK6
Ashluslay SK5

7 Toba.
29 Caingáng, AMBROSETTI (1), fig. 5.
30 Guayaqui, KUNIKE pag. 158. (Not on the map.)
17 Abipone, DOBRIZHOFFER, Vol. 2., p. 359.
97 Puri, WIED, engravings and maps to Vol. 1. Pl. 12, fig. 4.
13 Finds from Arica, UHLE (1), Vol. 1, Pl. 25, fig. 24 and 25, JOYCE, Pl. 26,4.

Arrows with thickened heads are almost entirely wanting throughout the N.E. of Bolivia, N.W. Brazil[1]), among the Indians of R. Purús[2]), among the Jivaro[3]), the Ona[4]), and probably the Mojo[5]) Indians.

These arrows, therefore, do not occur in every district where they might have been used with advantage. But it may be asked whether arrows with thickened heads are not somewhat unnecessary among tribes that have blowguns. These arrows are used especially in shooting at birds in trees. If the arrow does not strike the bird, but the trunk of the tree, it does not stick there as a sharp arrow would, but falls down and can be used again. The blowgun, too, is chiefly used in shooting at birds and small mammals that are found in trees. The two seldom occur together among the same tribe. It seems to me impossible to say at present where the bird arrow originated. It is probably a very old cultural element. The most primitive, but not certainly the oldest form of this kind of arrow, is found among the Botocudo, Puí, Kayapó, Paressi-Kabiši, and in parts among the Guató, where the thickened end is made of the root of the cane which constitutes the shaft.

The Ashluslay wrap their left wrists round with a thick cord as a protection against the bow-string. The Choroti, Mataco and Ashluslay sometimes have broad leathern brace-

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[1]) KOCH-GRÜNBERG, WHIFFEN.
[2]) EHRENREICH.
[3]) RIVET (1).
[4]) GALLARDO, etc.
[5]) CASTILLO, p. 318.

2: Nordenskiöld E-5 (1908-1909)1919
SK6 Choroti SK6
Ashluslay SK5

Fig. 6. Leather bracelet adorned with tin-plate. Ashluslay, R. M. (A. 1025) 1/2.

lets (fig. 6), which probably serve the same purpose. *Wristlets* for shooting with the bow have not been observed among many of the S. American Indian tribes. From books I know of them among the Abipone[1]), Botucudo[2]), Crichaná[3]), Goajiro[4]), Guató[5]), Ipurucotó[6]), Karajá[7]), Mbayá[8]), Mundrucú[9]), Chavantes[10]), Chieriabá (on the R. de S. Francisco, E. Brazil[11]), Cainguá (Cayua)[12]) and Ona[13]).

The wristlet is, as far as I can see, a cultural element the distribution of which is too little known for us to venture upon conclusions with regard to its origin.

Snares are probably extensively used in S. America, though they have been little studied. On my travels I came across a great number of snares set in very various ways by the Choroti, Chané, Toba, Cavina, Guarayú (Pauserna) and Tumupasa.

I will not attempt here to determine the distribution of the different types of snares. The fact is probably that all, or almost all, the Indian tribes use snares of some sort, though they may have escaped the notice of most travellers. When opportunity offers I will describe and depict, in a sep-

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1) Dobrizhoffer, Vol. 2, p. 354
2) Wied, Vol. 2, p. 27
3) Barbosa Rodrigues, p. 161.
4) Thekkik v. Bayern (1) Vol. 1, Pl. 1, fig. 7.
5) Max Schmidt (3), p. 238.
6) Barbosa Rodrigues, p. 145.
7) Krause, p. 275.
8) Sánchez Labrador, Vol. 1, p. 316.
9) Martius, Vol. 1, p. 388.
10) " " " " 272.
11) " " " " 278.
12) Lopes, p. 320.
13) Gallardo, p. 150.

2: Nordenskiöld E-5 (1908-1909) 1919
SK6 Choroti SK6
Ashluslay SK5

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arms are made. I have not seen similar slings among any other tribe.

The *Bolas*, too, is only found among the Choroti and the Ashluslay as a toy or as a boy's weapon. There are no stones to make the balls, so these are made of wood.[1]) FRIEDERICI[2]) has indicated the distribution of the bolas. He mentions the Aymara, Quichua, Mojo, Mataco, Abipone[3]) and other Chaco Indians, the Araucaniaps and other allied tribes, the Indians of the Argentine pampas, the Patagonians and some of the Fuegians[4]). To this list may be added the Querandi[5]) at the mouth of the R. La Plata.

Fig. 7. Ashluslay Sling. R. M. (A. 1555).

Stones similar to those used for the bolas have been found in an extensive region in the west and south of S. America. A good deal that has been written about these stones is passed over by FRIEDERICI in the treatise just referred to; v. IHERING[6]) has written about these stones in S. Brazil. RIVET[7]) who offers us a very complete résumé concerning their distribution, is of the opinion that they were used in different places for different purposes. It must therefore not be assumed that wherever bolas-like stones have been found, the bolas was in use. EDER[8]) mentions the

[1]) See »Indianerleben» fig. 24.
[2]) (4) p. 34.
[3]) Also as a toy. FRIEDERICI (4), p. 34.
[4]) See also COLAZZI. p. 124.
[5]) SCHMIDEL. p. 150.
[6]) (1), p. 73.
[7]) (4) p. 177.
[8]) p. 209.

2: Nordenskiöld E-5 (1908-1909)1919
SK6 Choroti SK6
Ashluslay SK5

ODD woods the bolas is an unserviceable weapon. Toy bolas, like those used by the Choroti and Ashluslay, have not been observed by me among any other tribe. From books I only know of toy bolas from the Patagonians[1]), Araucanians[2]) and among the Incas, as stated by FRIEDRICI[3]) following HUAMAN POMA.

Fig. 8. Pellet bow. Ashluslay. G. M. (A. 1798) 1/4.

A combination of sling and bow is the *clay-pellet bow* (Fig. 8). I have seen it among the (16) Mataco (Mataco-Vejos), (2) Ashluslay, (1), Choroti, (3) Tapiete, (22) Yuracáre, (4) Chiriguano, (5) Chané (23) Chirápa, and (87) Mestizos of Sta. Cruz in Bolivia.

GUSTAF ANTZE has written a treatise on the distribution of the pellet bow in the world. According to him, it is in use in the following districts and among the following tribes of S. America: (87) Brazilian coast, W. of Cabo Frio, (87) Sta. Catarina, (3 c) Machali on the R. Belmonte (21) Caingáa (16) Guató, (17) Abipone, (8) Lengua (I), Guarani (Paraguay) (IV) Guaná (11) Chamacoco, (X) 4 Payaguá (II) Tereno (9) Toba, (12) Mbayá (Kadiuéo) (75) Angaité (87) among Portugese boys in Leopoldina, and among the (13) Karajá.

As seen from Map 5, the pellet bow has an easterly and much concentrated distribution in S. America. It also occurs in India and E. Asia. It appears to me improbable that the pellet bow should have been invented independently in Asia and in S. America, and I almost came to the conclusion some time ago that the pellet bow reached the New World from the Old in some manner in pre-Co-

[1]) OTTER and BIRCH p. 123.
[2]) PATAGONICI (4), p. 34.
[3]) [illegible]

2: Nordenskiöld E-5 (1908-1909)1919
SK6 Choroti SK6
Ashluslay SK5

VIII.

Weapons not used, or seldom used, in the Chase.

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The bow and arrow is the most important weapon used by the Chaco Indians here dealt with in their encounters with other Indians or with white men. I have treated of the bow and arrow above. Particular types of arrows that are only used in encounters with men, are not found, with the exception of the *fire-arrow*. The Mataco, and probably also the Choroti when they attack an Indian village, occasionally employ such arrows. With them they set fire to their adversaries' huts. Similar arrows are mentioned by DOBRIZHOFFER[1]) from the Abipone, STADEN[2]) from the Tupinambá, MARTIUS[3]) from the Chavantes, SCHMIDEL[4]) from the Indians at the estuary of the La Plata, BIET[5]) from Indians that lived near the estuary of the Oyápock in Guayna, DU TERTRE[6]) from the Lesser Antilles, and PIZARRO[7]) from Cuzco. Other weapons, not used, or seldom used in the chase, but principally in contests with men, are clubs, knuckle-dusters, lances and bone daggers.

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The *battle-club* has a characteristic shape among the Choroti and Ashlaslay. It is short with, a clearly marked head.

[1]) p. 359.
[2]) Vol. 1 Caput IIIj; Vol. 2, Caput xxvij.
[3]) p. 270.
[4]) p. 155.
[5]) p. 219.
[6]) Vol. 2, p. 404.
[7]) p. 200.

2: Nordenskiöld E-5 (1908-1909) 1919
SK6 Choroti SK6
Ashluslay SK5
Mataco SI7

PATER SCHMIDT[1]) mentions such clubs from the Tsirakua[2]) Ashluslay, Choroti, Sanapana, Chamacoco, Pilaga, Payaguá Mataco, Lengua, Mascoi, Guaná, and from the old culture zone in the West.[3]) I may add the Tupinambá[4]) and the Tapiete. PATER SCHMIDT points out[5]) that the occurrence of this type of club in the Chaco points to influences from the mountain culture. Here he is probably right.

It is of great interest to note the distribution of wooden clubs with clearly marked heads, and of clubs with stone heads. In S. Brazil, as in the Andes, we find stone clubheads. In the Chaco they are exclusively of wood, the very natural reason being that there are no stones. The occurrence of stone clubheads in S. Brazil will be the more readily understood on the assumption that the wooden club in the Chaco is a local form of the stone-headed Andes club.

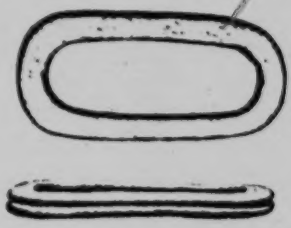

Fig. 10. Knuckle-duster. Mataco. R. M. (03. 3. 074) 1/3.

A rare weapon in S. America, which is found in the Chaco among the (1) Choroti, (6) Mataco, (3) Tapiete and (2) Ashluslay, is the knuckle-duster (Map 5).[6] It is used there by the women. Most knuckle-dusters in the Chaco are made of wood or Tapir hide. The knuckle-duster depicted above, which is of wood, is from the Mataco (Fig. 10). A drawing of a knuckle-duster of tapir hide from the Ashluslay is given in «Indianerleben».[6]) From the distribution of the knuckle-

[1]) p. 1027.

[2]) Incorrectly quoted from my book, «Indianerleben», SCHMIDT substituting Siriono for Tsirakua. The little missile clubs of the last-named Indians are, moreover, very different from those of the other Chaco Indians. (See «Indianerleben» fig. 140).

[3]) p. 1052.

[4]) LERY, Fig. p. 241.

[5]) p. 1027.

[6]) Fig. 37.